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ABSTRACT

This pamphlet offers tips and strategies from teachers who are successful in encouraging both girls and boys to participate in the classroom. Although successful teachers are all different, each classroom has the following things in common: (1) the classroom environment is respectful of students and teachers; (2) all students participate in class; and (3) the classrooms incorporate multiple modes of learning. Sections of the pamphlet include: (1) "Teachers' Tips and Strategies"; (2) "From Harassment to Respect: Changing Classroom Climates"; (3) "We're All in This Together: Improving Classroom Interaction"; and (4) "Motivation, Fun, and Hard Work: Increasing Academic Success." A 9-item reference and sources section concludes the pamphlet. (EH)

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Teacher Strategies That Work for Girls and Boys

ED 409 248

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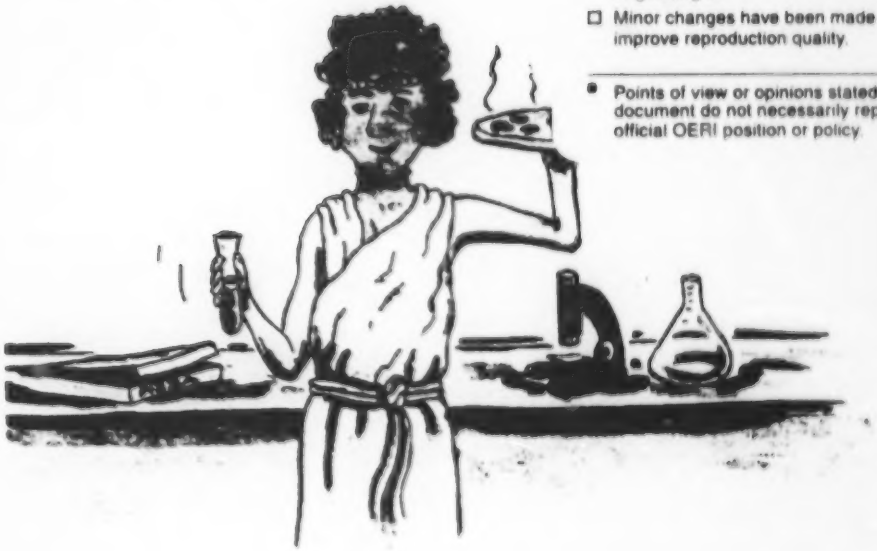

SO 027 438

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Teachers' Tips and Strategies

The tips and strategies in this brochure are from teachers who are successful in encouraging both girls and boys. While a tip might work for the teacher who uses it, not all strategies work for all teachers. Teachers, like everyone else, come in many sizes, types, and personalities. The successful teachers involved with the tips outlined in this brochure range from those seen by their students as "wild and crazy" to others seen as "sweet and so nice." The strategies reflect the style and personality of individual teachers.

"Wild" teachers use Kermit the Frog™ to demonstrate forces, occasionally throw chalk to make a point, and promise to take the entire class out to dinner if they all score 4 or 5 on the BC Calculus Advanced Placement exam. "Sweet" teachers provide a caring, nurturing environment for students, setting an example of respect and learning that students follow. Some teachers use in-class pizza parties to reward students for their hard work; other teachers replace the more traditional "gurus" with "chemistry goddesses," challenging the stereotypes of who is best in science and who is and isn't a nerd.

As different as these teachers and the strategies they use are, their classrooms have many things in common, including the following:

- The classroom environment is respectful of students and teachers.
- All students participate in class.
- The classrooms incorporate multiple modes of learning.

The strategies of these teachers include an emphasis on gender equity. Many girls still need to hear that math and physical science are for them. Teachers can give girls this message. While teachers can perpetuate stereotypes with comments like, "You're too pretty to be a math whiz," they can also encourage girls (and boys) with activities that fight stereotypes, and by being excited about teaching and their subject.

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From Harassment to Respect: Changing Classroom Climates

I wish my teachers would stop students from putting down and making fun of one another. In the school I attend it seems there are very few students who respect one another and the teachers just sit back and don't tell the kids to stop. Why can't the teachers get more involved? It would make for a happier learning environment.

—Samara Devore, "Fresh Voices"

There are several ways to make a happy learning environment happen.

Have a policy about student put-downs.

- The first time there is a put-down in class, the student is told, "We don't do that." The second time the warning is repeated more forcefully, and the third time the student is told to leave the class.

- The first time a student puts another student down in class, they are yelled at. The second time they are "thrown" out of class.

Turn the tables on the "put-downer."

- Explain to the "put-downer" what they have done to the other person and how that person might feel. Often students think about it and sometimes they will apologize.

- Comment back to the student, but stay away from sarcasm. For example, if one student makes a mean comment about another who never talks, you might say, "and yet they are still doing better than you."

Watch your own actions.

- Use gender-inclusive language. When teachers use the male generic, students think only males do it. Be sure to use female as well as male pronouns and names in examples to send the message that both girls and boys do science and math.

- Never suggest that students not continue in math. If they want to drop, suggest that they drop a level instead of the course.

- Check if you treat girls and boys differently. Have another teacher observe you over a period of time or do some classroom videotaping to see how you're acting.

We're All in This Together: Improving Classroom Interaction

I listen to what the girls have to say. For girls not to be afraid to raise their hands, they have to know that they will be listened to and that they won't be disrespected.

—Chemistry teacher

Students are more apt to be involved in class when they know they will get the teacher's attention. Yet most teacher attention goes to a small number of "target" students, who are generally boys and always assertive.

It doesn't have to be that way. You can broaden the pool of who talks and who listens in class, and make the class a place that is comfortable for both asking questions and giving answers. Strategies to do this include the following:

Make students feel their response is valued.

- Follow up on student comments as often as you possibly can.
- Give deserved praise or a deserved reprimand every time.
- Watch your expressions as well as your words when responding to students. Give a positive verbal as well as nonverbal message.

Check who is getting your attention.

- Use the class list to mark off the names as you ask students questions, and make sure everyone gets a turn.
- Try to call on every student at least once each period. (Some teachers actually do this—most call on some students only once or twice a week.)
- Have students work together so you can "get to each group." You may have several short interactions with each group each period. Or, you may have longer interactions with each group over several lab periods, starting each lab period with a group to whom you didn't get the last period.

Talk to students during out-of-class time.

- Pick one or two students from the class list each day and build some out-of-class personal time with them to chat and break down some barriers. It helps them to speak up in class.

- Speak individually, outside of class, to students who don't talk in class to see if everything is okay. Encourage them to talk in class and to come in for extra help if they need it. Try the same method with students whose grades drop.

Get the very talkative student to quiet down.

- Outside of class, speak to the student about the need to let others speak. If necessary, set up signals between the two of you to let the student know when to "cool it." The signal may be a code word or a hand signal but it should only be between the two of you—the rest of the class shouldn't know about it.

- If at times you give the student the attention he or she needs, that often "cools them out." Otherwise try to be honest about why you can't give them the attention.

Keep control when there is a lot of student interaction.

- Have the students figure out a signal for "quiet" for you to use.

- If you can't get a good mix of student responses with them calling out, insist on hands raised and explain why.

- Use behavior modification techniques to train students to build on each other's

Motivation, Fun, and Hard Work: Increasing Academic Success

The following are some teacher techniques to increase the fun, motivation, and academic success of students, particularly female students, in math and science.

Include some fun.

- Schedule something fun and unusual as a reward for making it through the exam, the advanced placement, or even a hard topic. Rewards can range from pizza parties, a viewing of the movie *Stand and Deliver,* a costume day, or even a "Square One" TV marathon.
- Have students make up and use games, like "Chemistry Jeopardy," with prizes for the winning team (for example, no homework for a night) to motivate rote learning. Having a team, as a whole, answer questions builds team feelings and doesn't put individuals on the spot.
- When possible, add silly examples like using a stuffed Kermit the Frog™ and a record on a turntable to illustrate centrifugal and other forces.

Use multiple modes of instruction.

- Where possible, use graphics, words, and illustrations to present concepts so if a student doesn't get it one way, she or he may another.
- Encourage the development of study groups so students can learn from each other.
- Do as much hands-on work as possible, with every student getting a chance to do it.
- Watch student faces. Note body language and facial expressions as well as questions to determine who has "got" it and who hasn't yet.
- Along with in-class question time, provide some out-of-class question time as well. Anonymous comments on three-by-five-inch index cards work well too.
- Try having students read the book and do some problems before you go over the material in class.

Respect the students' knowledge.

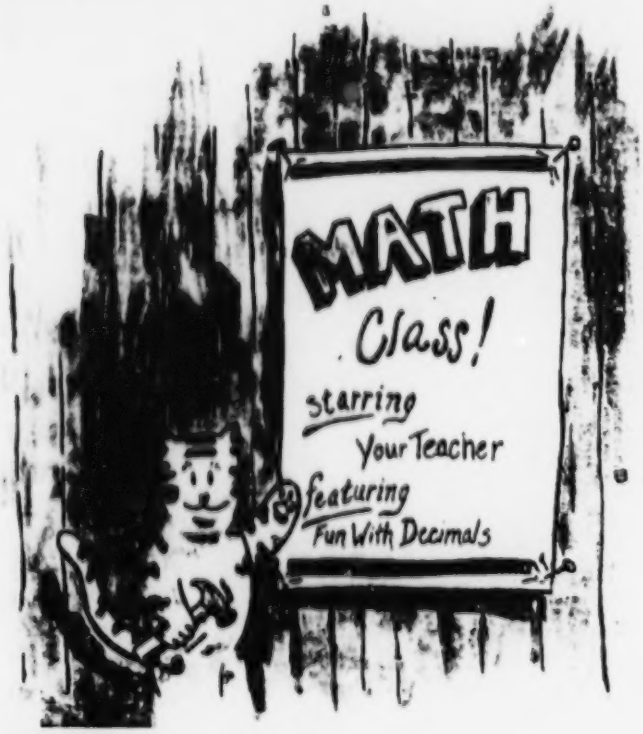
- Praise students for finding alternatives to solve problems. Make it a challenge for them to do problems several different ways.
- Reward students for finding and pointing out your mistakes. It keeps them paying attention.
- With the students, explore where wrong answers are coming from and help students see the understandings and misunderstandings that are behind them.

Assume students have a math and science future.

- Always have an answer to, "Why do we have to learn this?" other than, "It will be on the test." For example, "You don't need to know this for the AP but in your math and science future twenty-five years from now, if you don't know it you may get fired," is one possible answer.
- Use posters, guest lectures, and stories to bring math and science careers to students. People with disabilities and ethnically diverse female and male role models can make a difference.
- Provide students with information about the many math and science summer programs available to both gifted and "regular" students.

Remember that even students whom you (and they) think don't need support, will need it at some point. Keep the support coming to everyone.

Remember these tips came from one group of successful teachers. Add your own to the list.



So ask yourself:

Is this a classroom in which I would have fun learning?

If the answer is no, you need to make some changes.

References and Sources of Further Information

For more information on student math and science programs, contact your local university or the following organizations.

Project EQUALS
Lawrence Hall of Science
University of California
Berkeley, CA 94705
(510) 642-1823

Directorate for Education and Human Resources
National Science Foundation
4201 Wilson Boulevard
Arlington, VA 22230
(703) 306-1637

Math/Science Network
Mills College
5000 MacArthur Blvd.
Oakland, CA 94613
(510) 430-2222

Women in Engineering Program Advocates Network (WEPAN)
Purdue University
1284 CIVL Building, Room G-293
West Lafayette, IN 47907
(317) 494-5387

National Action Council for Minority Engineers (NACME)
3 West 35th Street
New York, NY 10001
(212) 279-2626

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Devore, S. (March 27, 1994). "Fresh Voices." *Parade Magazine.*

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Other brochures in this series include
"Girls Are . . . Boys Are . . . : Myths, Stereotypes, and Gender Differences"
"Whose Responsibility Is It? The Role of Administrators and Counselors"
"Why Me? Why My Classroom? Equity in Coed Math and Science Classes"

Illustrations by Judy Butler

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